

## ARPEGE MEMORANDUM

**From:** GCO

**Date:** November 29, 2007

**To:** GMAP, COMPAS, GMGEC, GMME, DIR/RE/CRC, Mats Hamrud

**Subject:** New cycle CY33

A new cycle CY33 has been created. This is a common cycle with the ECMWF. The different contributions for this cycle are described in the following pages.

ClearCase  
label: CY33

Modified  
libraries: ifs,aladin,odb,black\_list,transform,transform\_aladin,mpa,mse,utilities

### Contributors:

BENGTSSON Lisa	Project:ifs	CCase branch:mrpe696_CY32T3_aplpar
BOGATCHEV Andrey	Project:ifs	CCase branch:mrpe702_CY32T3_agb
BROZKOVA Radmila	Project:ifs	CCase branch:mrpe684_CY32T3_3mtfix
EL-KHATIB Ryad	Project:ifs	CCase branch:mrpm602_CY32T3_gauss
	Project:ifs	CCase branch:mrpm602_CY32T3_r3fix
	Project:ifs	CCase branch:mrpm602_CY32T3_rrtm
GCO	Project:ifs	CCase branch:marp001_CY32T3_r3fix
	Project:ifs	CCase branch:marp001_CY32T3_r3obsolete
	Project:ifs	CCase branch:marp003_CY32T3_merger3
GUILLAUME Frank	Project:ifs	CCase branch:mrpa644_CY32T2_fg07008
Karim Yessad	Project:ifs	CCase branch:marp003_CY32T3_mrpm603
LABADIE Carole	Project:ifs	CCase branch:mrmn269_CY32T0_congrad
MONTMERLE Thibaut	Project:ifs	CCase branch:mrpa666_CY32T3_radar_Doppler
NMIRI Abdelwaheb	Project:ifs	CCase branch:mrpe714_CY32T3_TAL
PAYAN Christophe	Project:ifs	CCase branch:mrpa642_CY32T3_merger3
PUECH Dominique	Project:ifs	CCase branch:mrpa660_CY32T3_phas
SEITY Yann	Project:ifs	CCase branch:mrpm637_CY32T3_bfaromelinux
SPANIEL Olda	Project:ifs	CCase branch:mrpe693_CY32T3_asc
TAILLEFER Francoise	Project:ifs	CCase branch:mrpa647_CY32T3_ftbl
WATTRELOT Eric	Project:ifs	CCase branch:mrpa652_CY32T3_radarew
WILHELMSSON Tomas	Project:ifs	CCase branch:mrpm636_CY32T2_hirlam
	Project:ifs	CCase branch:mrpm636_CY32T3_intel
	Project:ifs	CCase branch:mrpm636_CY32T3_norms
YESSAD Karim	Project:ifs	CCase branch:mrpm603_CY32T3_bf32t3r3

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**BENGTSSON Lisa****Doc:**

*hl\_aplpar.F90:*

- Phased over relevant changes from *aplpar.F90* between *cy32t2* and *cy32t3* regarding SURFEX.
- Cleaning of several unused dummy arguments.
- Removed initialisation of unused 3MT variables.

*mf\_phys.F90:*

Removed arguments sent to *hl\_aplpar.F90* that were unused.

*yhlcond.F90, yhlturb.F90, yhlrad.F90:*

Add comments.

**Project:** ifs

**ClearCase branch:** mrpe696\_CY32T3\_aplpar

**Modified:**

arp/module yhlcond.F90 yhlrad.F90 yhlturb.F90  
arp/phys\_dmn hl\_aplpar.F90 mf\_phys.F90

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**BOGATCHEV Andrey****Doc:**

*Fix severe breaks of coding rules.*

**Project:** aladin,ifs

**ClearCase branch:** mrpe702\_CY32T3\_agb

**Modified:**

ald/transform	espuv.F90	etransdir_jb.F90	etransdir_jbad.F90
	etransinv_jb.F90	etransinv_jbad.F90	
ald/var	ejgnrggad.F90	ejgnrggiad.F90	suejbbalbeta.F90
	suelges.F90		
arp/adiab	gprh_2d.F90		
arp/control	master.F90		
arp/dfi	fcbeby.F90	fspand.F90	gee.F90
arp/dia	cpnudg.F90		
arp/obs_preproc	sonde_country_db_match.F90		
arp/phys_dmn	accvud.F90	acmodo.F90	acupd.F90
	acupm.F90	acupu.F90	hlcldia.F90
arp/phys_ec	radclb.F90		
arp/pp_obs	gpsro_oberror.F90	hretr.F90	
arp/setup	suct0.F90	sufpdyn.F90	suhlcond.F90
	suhlconst.F90		

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**BROZKOVA Radmila****Doc:**

*This modification set contains mostly corrections regarding the 3MT scheme.*

*yomphy0.F90:*  
*New tuning constant HUCRED to reduce saturation deficit in the computation of condensation.*

*namphy0.h*  
*Introduction of HUCRED.*

*suphy0.F90:*  
*Default value of HUCRED=1. (preserving results) and print out.*

*acnebcond.F90:*  
*Modification of the critical humidity by the HUCRED constant.*

*aplpair.F90:*  
*Introduction of a local array ZMELNET to arrange for handling the information on melting/freezing.  
Change of the interface to APLMPHYS.*

*accvud.F90, acmodo.F90:*  
*Further corrections in computation of the convective ascent. Mirror modifications in ACMODO.*

*aplmpphys.F90, acevmel.F90, accdev.F90:*  
*Correction of the condensation computation in case of Smith-Gerard algorithm. Further improvements of the freezing/melting computations.*

**Project:** ifs  
**ClearCase branch:** mrpe684\_CY32T3\_3mtfix

**Modified:**

arp/module	yomphy0.F90		
arp/namelist	namphy0.h		
arp/phys_dmn	accdev.F90	accvud.F90	acevmel.F90
	acmodo.F90	acnebcond.F90	aplmpphys.F90
	aplpair.F90	suphy0.F90	

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**EL-KHATIB Ryad**

**Doc:**

*Bugfix on the program to compute gaussian reduced grid.*

**Project:** transform  
**ClearCase branch:** mrpm602\_CY32T3\_gauss

**Modified:**

tfl/programs rgrid.F90

**Doc:**

*suafn1.F90 : Bugfix*  
*sufpsc2\_dep.F90 : Optimisation (enable negative value for NFPRONA\_DEP)*  
*quad\_emu.F90 : portability fix for 32-bits machines*  
*linuxtrbk.c : portability fix for Darwin (Mac OS X).*

**Project:** ifs,ifsaux  
**ClearCase branch:** mrpm602\_CY32T3\_r3fix

**Modified:**

arp/setup suafn1.F90 sufpsc2\_dep.F90  
 xrd/module quad\_emu.F90  
 xrd/utilities linuxtrbk.c

**Doc:**

*Vectorisation of RRTM. Results should be bit-identical to the previous pre-release.*

**Project:** ifs  
**ClearCase branch:** mrpm602\_CY32T3\_rrtm

**Modified:**

arp/phys_ec radlsw.F90	rrtm_ecrt_140gp.F90	rrtm_ecrt_140gp_mcica.F90
rrtm_gasabs1a_140gp.F90	rrtm_rrtm_140gp.F90	rrtm_rrtm_140gp_mcica.F90
rrtm_rtrn1a_140gp.F90	rrtm_rtrn1a_140gp_mcica.F90	rrtm_setcoef_140gp.F90
rrtm_taumol1.F90	rrtm_taumol10.F90	rrtm_taumol11.F90
rrtm_taumol12.F90	rrtm_taumol13.F90	rrtm_taumol14.F90
rrtm_taumol15.F90	rrtm_taumol16.F90	rrtm_taumol2.F90
rrtm_taumol3.F90	rrtm_taumol4.F90	rrtm_taumol5.F90
rrtm_taumol6.F90	rrtm_taumol7.F90	rrtm_taumol8.F90
rrtm_taumol9.F90		

**GCO****Doc:**

*1/ Split module aeolus\_processing.F90 in 3 modules, in order to fix a compilation problem on NEC .*

*2/ Rename include file funcs.h to funcs\_bla.h , to avoid a conflict with ODB version of funcs.h (also modify bla/compiler/funcs.c according to this renaming).*

*3/ Fix miscellaneous phasing bugs.*

*4/ Rename odb/lib/random.c to odb/lib/random\_odb.c , to avoid a conflict with ifsaux object random.o in link editions.*

*5/ Fixes for Intel Fortran Compiler (from Tomas Wilhelmsson) (\*.mnh) .*

*6/ Fix for compilation on IBM (Rs\_t\_rh\_biasfit.F90) .*

*7/ Empty the body of some obsolete routines, in order to be sure if they are really obsolete before delete them...*

*8/ Fix miscellaneous phasing bugs.*

**Project:** aladin,black\_list,ifs,mse,odb,utilities  
**ClearCase branch:** marp001\_CY32T3\_r3fix

**Added:**

arp/module aeolus\_getamd\_mod.F90 aeolus\_l2bp\_wrapper\_mod.F90

**Renamed:**

bla/include funcs.h to bla/include/funcs\_bla.h  
odb/lib random.c to odb/lib/random\_odb.c

**Modified:**

ald/adiab	elaitlitlad.F90		
arp/adiab	gptopb1.F90	laidspqm.F90	laidspqmh.F90
arp/climate	updsoli.F90		
arp/dia	gptosnorm.F90	ppbuffer.F90	
arp/module	aeolus_getamd_mod.F90	aeolus_l2bp_wrapper_mod.F90	aeolus_processing.F90
	yom_phys_grid.F90		
arp/obs_preproc	flgdge.F90	flgoba.F90	gedeve.F90
	gedeve2.F90	gereve.F90	gereve2.F90
	modrl.F90	nchdeve2.F90	ssmithi.F90
	thickpwc.F90	tovsrtovs_ob.F90	trmmbe.F90
	trmmin.F90	trmmthi.F90	
arp/ocean	wrcodm.F90		
arp/parallel	diwrspc.F90	gpnorm1.F90	sladd3p.F90
	sladd3pad.F90		
arp/pp_obs	aerod_ad.F90	aerod_op.F90	aerod_tl.F90
	cpgeob.F90	forward_backward_prop.F90	gradient_descent.F90
	mpobseq_pck2.F90	mpobseq_unpck2.F90	neural_simulator.F90
	pca_calc.F90	sumup.F90	tadjust.F90
	thinup.F90	z0simple.F90	
arp/sekf	sekf_backgerr.F90	sekf_gain.F90	sm_ekf_main.F90
arp/setup	sudluy.F90		
arp/utility	chgridf.F90	modeltojb.F90	spec_part_copy.F90
arp/var	cosjr2.F90	covintp.F90	cv2spa.F90
	cvaru2.F90	fltfcerr.F90	fmult.F90
	fmultad.F90	simpxico.F90	sisca1.F90
	sujbwavvc_sp.F90		
bla/compiler	funcs.c		
bla/library	funcs_varargs.c		
mse/internals	prep_isba_grib.mnh	prep_teb_grib.mnh	
odb/bufr2odb	bufr2odb_aeolus.F90	get_varindex.F90	
odb/cma2odb	initmdb.F90		
odb/include	privpub.h		
odb/module	varindex_module.F90		
odb/tools	Rs_t_rh_bias_statistics.F90	Rs_t_rh_biasfit.F90	Rs_t_rh_update_country_db.F90
	Rs_t_rh_update_sondetype_db.F90		
uti/module	bator_radar_mod.F90		
xrd/support	env.c		

**Doc:**

*Remove obsolete routines.*

**Project:** aladin,ifs  
**ClearCase branch:** marp001\_CY32T3\_r3obsolete

**Deleted:**

ald/adiab	elaitlitlad.F90		
arp/adiab	gptopb1.F90	laidsp.F90	laidspqm.F90

	laitsldsp.F90	laitsldspqm.F90	laitsldspqmh.F90
	laitsp.F90	laitspqm.F90	laitspqmh.F90
arp/climate	updsoli.F90		
arp/dia	gptosnorm.F90	ppbuffer.F90	
arp/function	fcdbble.h	fsatpmad.h	fsatpmtl.h
arp/obs_preproc	flgdge.F90	flgoba.F90	gedeve.F90
	gedeve2.F90	gereve.F90	gereve2.F90
	modrl.F90	nchdeve2.F90	ssmithi.F90
	thickpwc.F90	tovsrtovs_ob.F90	trmmbe.F90
	trmmin.F90	trmmthi.F90	
arp/ocean	wrcodm.F90		
arp/parallel	diwrspe.F90	sladd3p.F90	sladd3pad.F90
arp/pp_obs	aerod_ad.F90	aerod_op.F90	aerod_tl.F90
	cpgeob.F90	forward_backward_prop.F90	gradient_descent.F90
	mpobseq_pck2.F90	mpobseq_unpck2.F90	neural_simulator.F90
	pca_calc.F90	sumup.F90	tadjust.F90
	thinup.F90	z0simple.F90	
arp/setup	sudluy.F90		
arp/utility	chgridf.F90	spec_part_copy.F90	
arp/var	cosjr2.F90	covintp.F90	cv2spa.F90
	cvaru2.F90	fltfcerr.F90	fmult.F90
	fmultad.F90	simpxico.F90	siscal.F90
	sujbwavvc_sp.F90		

**Doc:**

*Fix phasing bugs.*

**Project:** ifs

**ClearCase branch:** marp003\_CY32T3\_merger3

**Added:**

arp/climate cormass3a.F90 cormass3b.F90

**Modified:**

arp/obs\_preproc defrun.F90 qscatin.F90  
 arp/pp\_obs aod\_ad.F90 aod\_tl.F90 hopad.F90

**GUILLAUME Frank**

**Doc:**

*1/ Update of the radar datas decoding routine, to be in conformity with the new DSO tables. The decoder is still compatible with actual radar datas.*

*2/ Modifications to run BATOR in multi-proc.*

*3/ Modifications for IASI: count wagons in JPIB instead of JPIM, only in files reading. In writing of bases files, this parameter must be kept in JPIM, so a test has been added to avoid an overflowing in the estimation of INBWAG, before using INBWTOT (in JPIB).*

*4/ Other modifications:*

- direct writing of ROBODY(MDBRBVC) ;
- insert modifications for IASI in decode\_buf ;

- move test of unknown datas at is initial place .

**Project:** utilities  
**ClearCase branch:** mrpa644\_CY32T2\_fg07008

**Modified:**

uti/bator bator.F90  
uti/module bator\_decodbufr\_mod.F90 bator\_decodgrib\_mod.F90 bator\_ecriptions\_mod.F90  
bator\_impr\_mod.F90 bator\_init\_mod.F90 bator\_lectures\_mod.F90  
bator\_module.F90 bator\_saisies\_mod.F90 bator\_util\_mod.F90

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**Karim Yessad**

**Doc:**

*Phasing.*

**Project:** ifs  
**ClearCase branch:** marp003\_CY32T3\_mrpm603

**Modified:**

arp/adiab larcinbad.F90 larcinbtl.F90  
arp/module yomct0.F90  
arp/setup suctrl\_gflattr.F90 sudefo\_gflattr.F90 sudim1.F90  
sudyn.F90 sudyn\_setgflattr.F90

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**LABADIE Carole**

**Doc:**

*Modification (under key) allowing to suppress an error message in configuration 601 .*

**Project:** ifs  
**ClearCase branch:** mrmn269\_CY32T0\_congrad

**Modified:**

arp/var congrad.F90

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**MONTMERLE Thibaut**

**Doc:**

*Phasing: merge routines for Doppler radar.*

**Project:** ifs,odb,utilities  
**ClearCase branch:** mrpa666\_CY32T3\_radar\_Doppler

**Modified:**

arp/module pardimo.F90 yomvnmb.F90  
arp/obs\_preproc fgchk.F90

arp/pp_obs	dopplsim.F90	hvnmtlt.F90
arp/setup	suvnmb.F90	
odb/ddl	vamo.h	
uti/module	bator_ecriptions_mod.F90	

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### **NMIRI Abdelwaheb**

#### **Doc:**

*Phasing of TAL routines according to TFL modifications between CY32 and CY32R3 .*

**Project:** aladin transforms  
**ClearCase branch:** mrpe714\_CY32T3\_TAL

#### **Modified:**

tal/external	esetup_trans.F90	etrans_end.F90	etrans_inq.F90
tal/interface	esetup_trans.h		
tal/module	esetup_geom_mod.F90	suefft_mod.F90	suemp_trans_mod.F90
	suemp_trans_preleg_mod.F90		

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### **PAYAN Christophe**

#### **Doc:**

*Phasing.*

**Project:** ifs,odb  
**ClearCase branch:** mrpa642\_CY32T3\_merger3

#### **Modified:**

arp/module	yommkodb.F90	yomsc.F90	yomthlim.F90
	yomvnmb.F90		
arp/namelist	nammkodb.h	namsc.h	
arp/obs_preproc	ascatin.F90	conventional_ob.F90	ersin.F90
	fgwnd.F90	iniersca.F90	nscatin.F90
	pre_thinner.F90	qscatin.F90	scaqc.F90
	scat_ob.F90	sufglim.F90	suobs.F90
	thinn.F90		
arp/pp_obs	hjo.F90		
odb/bufr2odb	bufr2odb_qscat.F90		
odb/ddl	decis_robhdr_4.sql	decis_roboddy_4.sql	new_thinn_robhdr_6.sql
	satbody_scat.sql	sathdr_scat.sql	

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### **PUECH Dominique**

#### **Doc:**

*1/ bator.F90:*  
*- Add ODB includes for OPENDB, SWAPOUTDB, CLOSEDDB .*  
*- Define CDNAME for call to SWAPOUTDB .*  
*- Fix call to SUCST .*  
*- Move test on NOBSTOT out of test "NPROC > 1" .*



2/ bator\_ecriptions\_mod.F90:  
Add ODB includes for GETATDB, PUTATDB .

3/ sugoms.F90:  
Format modification .

4/ mf\_blacklist.F90:  
Add variable SEA\_ICE in general definitions.

5/ Fix for GRIB datas .

6/ Fix for initial buffer reading: local definition of read unit .

7/ Bugfix (orlist.c) - screening is OK with this fix, compared to actual operational suite.

**Project:** black\_list,odb,utilities  
**ClearCase branch:** mrpa660\_CY32T3\_phas

**Modified:**

arp/obs_preproc	sugoms.F90	
bla	external_part	mf_blacklist.b
odb/lib	orlist.c	
uti/bator	bator.F90	
uti/mandalay	manda_util.F90	mandalay.F90
uti/module	bator_ecriptions_mod.F90	bator_lectures_mod.F90

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**SEITY Yann**

**Doc:**

1/ Bugfixes for AROME on PC (compiled with pgf90 or g95).

2/ Fix a problem in preparation of coupling files: add a missing variable initialization (to 0).

3/ Initialize a pointer (MVQS) used later in apl\_arome .

**Project:** lfs,mpa  
**ClearCase branch:** mrpm637\_CY32T3\_bfaromelinux

**Modified:**

arp/adiab	cpg_dia.F90	
arp/module	yomamar.F90	
arp/phys_dmn	apl_arome.F90	suparar.F90
arp/setup	sufpg2.F90	
mpa/turb/externals	aro_turb_mnh.mnh	
mpa/turb/internals	sbl_depth.mnh	

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**SPANIEL Oida**

**Doc:**

1/ Bug fixed in part of computation of SLHD supporting diffusion:  
- arp/setup/suhdir.F90

2/ Removing of severe breaks of coding norms:

- arp/module/aeolus\_getamd\_mod.F90 -  
- arp/module/aeolus\_l2bp\_wrapper\_mod.F90  
- ald/programs/lamflag\_odb.F90  
- ald/programs/blend.F90

3/ Fix the problem with B-level and in-line full-pos.

4/ Fix a double initialization of NULOUT variable.

**Project:** aladin,ifs  
**ClearCase branch:** mrpe693\_CY32T3\_asc

**Modified:**

ald/programs	blend.F90	lamflag_odb.F90
arp/module	aeolus_getamd_mod.F90	aeolus_l2bp_wrapper_mod.F90
arp/setup	suhdir.F90	sulap.F90
arp/utility	pkspecca.F90	

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**TAILLEFER Francoise**

**Doc:**

*Bugfix.*

**Project:** ifs  
**ClearCase branch:** mrpa647\_CY32T3\_ftbl

**Modified:**

arp/obs\_preproc flgdmx.F90

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**WATTRELOT Eric**

**Doc:**

*Phasing: merge routines for Doppler radar (in complement of Thibaut Montmerle phasing contribution).*

**Project:** ifs,odb  
**ClearCase branch:** mrpa652\_CY32T3\_radarew

**Modified:**

arp/obs_preproc	defrun.F90	sugoms.F90
arp/pp_obs	hop.F90	
odb/cma2odb	ctxinitdb.F90	getdb.F90

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**WILHELMSSON Tomas**

**Doc:**

*mse/internals/get\_luout.mnh*

*Ulf Andrae: cy31t1 changes to make it work at ECMWF*

arp/utility/echien.F90  
arp/pp\_obs/openfpfa.F90

Toon Moene: Fix segmentation violation due to constant actual argument vs. INTENT(INOUT) dummy argument.

mpa/turb/internals/turb.mnh

Sami Niemela: One non-initialized variable corrected in MESO-NH turbulence scheme. This caused a crash at HPCE and FMI's ALTIX with cy32t2.

mse/externals/ini\_prep\_surfex\_aro.mnh  
mpa/micro/externals/aroini\_cstrmh.mnh

Ulf Andrae: Correct compilation error and bug

arp/namelist/namcla.h  
arp/module/yomcla.F90  
arp/c9xx/relspe.F90  
arp/c9xx/incli0.F90

Mariano Hortal: spectral smoothing of orography by a diffusion operator. The diffusion operator of order 16 is applied as an alternative orographic smoothing, as used in ECMWF, with the aim to retain all scales representable with the linear grid while reducing the amplitude of the shortest scales in a very scale-selective way. This shall achieve a better representation of the orography, so that noises at the lowest model levels will be reduced without degrading too much the resolution represented in the orography field. At the time of implementation, the switch for the scheme, LSPSMORO, is set to false in default.

arp/phys\_dmn/hlturb.F90  
arp/phys\_dmn/hl\_aplpar.F90  
mse/externals/aro\_ground\_param.mnh

Bent H Sass: Modifications related to HIRLAM physics with Surfex. For the HIRLAM case it is proposed that it will be allowed to do explicit momentum fluxes which seems to have been abandoned very recently as a part of som Meteo-France scheme. However, explicit coupling at this stage is relevant at present for HIRLAM since the implicit scheme part is done elsewhere in the context of HIRLAM turbulence computations. If the proposal is accepted it would be better to allow for another letter than "E", ("H" or something else) but this requires discussion with Meteo-France staff.

**Project:** ifs,mpa,mse  
**ClearCase branch:** mrpm636\_CY32T2\_hirlam

**Modified:**

arp/c9xx	incli0.F90	relspe.F90
arp/module	yomcla.F90	
arp/namelist	namcla.h	
arp/phys_dmn	hl_aplpar.F90	hlturb.F90
arp/pp_obs	openfpfa.F90	

arp/utility echien.F90  
mpa/micro/externals aroini\_cstmnh.mnh  
mpa/turb/internals turb.mnh  
mse/externals aro\_ground\_param.mnh ini\_prep\_surfex\_aro.mnh  
mse/internals get\_luout.mnh

**Doc:**

*Portability: fix some compilation errors for Intel Fortran Compiler.*

**Project:** mse,odb  
**ClearCase branch:** mrpm636\_CY32T3\_intel

**Modified:**

mse/internals prep\_teb\_buffer.mnh prep\_teb\_grib.mnh  
odb/tools Rs\_t\_rh\_biasfit.F90 Rs\_t\_rh\_update\_country\_db.F90 Rs\_t\_rh\_update\_sondetype\_db.F90

**Doc:**

*Norm checker violations fixed in arp/modules of cy32t3\_r3*

=====  
1) arp/module/iostream.F90  
arp/module/control\_vectors\_comm.F90  
-> CALL MPL\_SCATTERV(...cdstring='CONTROL\_VECTORS\_CCOMM:SCATTER\_CTLVEC')  
(S) CTRL(27) : Calls to MPL\_ routines should have the argument CDSTRING='caller...' where caller is the name of the calling routine

*Left unchanged*

2) arp/module/yhlcond.F90  
arp/module/yhlconst.F90  
arp/module/yhloption.F90  
arp/module/yhlturb.F90  
arp/module/yhlrad.F90

*Added missing SAVE attribute.*

3) arp/module/yommsc.F90  
-> REAL, PRIVATE :: Z\_DEFAULT\_REAL ! intentionally not REAL(KIND=JPRB)  
(S) NORM(07) : Integers and reals should be declared with explicit kind

*As the comment says, this is intentionally not using KIND=JPRB!*

4) arp/module/iostream.F90

*Added missing INTENT attributes.*

5) arp/module/aeolus\_l2bp\_wrapper\_mod.F90  
-> integer\*2 :: value  
-> integer\*4 :: error\_flag  
(S) NORM(07) : Integers and reals should be declared with explicit kind  
(S) CTRL(20) : First argument of call to DR\_HOOK should be unit name in uppercase (no blanks)  
(W) CCPT(04) : Variable RMDI found in USE YOMANCS, ONLY: ... but variable not used  
(W) CCPT(04) : Variable NFLEVG found in USE YOMDIM, ONLY: ... but variable not used  
(W) NORM(10) : Naming convention violation: STR\_VALUE , variable should have prefix letter(s) "CL\_STR"  
(W) NORM(10) : Naming convention violation: VALUE , variable should have prefix letter(s) "I"  
(W) NORM(10) : Naming convention violation: ERROR\_FLAG , variable should have prefix letter(s) "I\_ERROR"

Changed \*2 to (kind=jpis) and \*4 to (kind=jpim)  
Removed declaration or RMDI, NFLEVG  
Renamed STR\_VALUE -> CL\_STR\_VALUE, VALUE -> IVALUE, ERROR\_FLAG -> I\_ERROR\_FLAG

6) arp/module/yomintgt.F90

arp/module/yomgamma.F90

(S) CTRL(20) : The first executable statement is NOT a proper call to DR\_HOOK

(S) CTRL(20) : The last executable statement is NOT a proper call to DR\_HOOK

DR\_HOOK calls outcommented or missing intentionally?

7) arp/module/aeolus\_getamd\_mod.F90

-> IF (LHOOK) CALL DR\_HOOK('AEOLUS\_GETAMD',0,ZHOOK\_HANDLE)

(S) CTRL(20) : First argument of call to DR\_HOOK should be unit name in uppercase (no blanks)

(W) CCPT(04) : Local variable RETR\_TYPE\_AEOLUS\_L1B declared but not used

(W) NORM(10) : Naming convention violation: ILEN , variable should have prefix letter(s) "K"

(W) NORM(10) : Naming convention violation: NAUXMET , variable should have prefix letter(s) "I"

(W) NORM(10) : Naming convention violation: RETR\_TYPE\_AEOLUS\_L1B , variable should have prefix letter(s) "I\_RETR\_TYPE\_AEOLUS"

(W) NORM(10) : Naming convention violation: KDBDY2 , variable should have prefix letter(s) "I"

Changed subroutine name to uppercase

Commented declaration of RETR\_TYPE\_AEOLUS\_L1B

Renamed ILEN -> KLEN, NAUXMET -> IAUXMET, KDBDY2 -> IDBDY2

8) arp/module/aeolus\_processing.F90

(S) NORM(03) : IMPLICIT NONE missing

Added IMPLICIT NONE

9) arp/module/yomemis.F90

-> INTEGER , PARAMETER :: CONST\_PAR = 15

(S) NORM(07) : Integers and reals should be declared with explicit kind

Added (KIND=JPIM)

**Project:** ifs

**ClearCase branch:** mrpm636\_CY32T3\_norms

**Modified:**

arp/module	aeolus_getamd_mod.F90	aeolus_l2bp_wrapper_mod.F90	aeolus_processing.F90
	iostream.F90	yhIcond.F90	yhIconst.F90
	yhloption.F90	yhIrad.F90	yhIturb.F90
	yomemis.F90		

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**YESSAD Karim**

**Doc:**

Bugfixes.

**Project:** ifs

**ClearCase branch:** mrpm603\_CY32T3\_bf32t3r3

**Modified:**

arp/adiab cpeuldyn.F90 lattes.F90

arp/setup suhdir.F90